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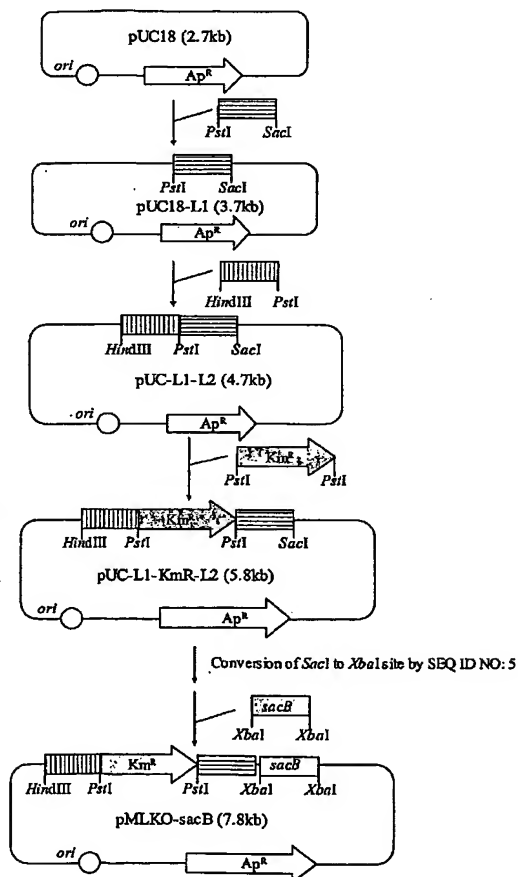
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(54) Title: NOVEL RUMEN BACTERIA VARIANTS AND PROCESS FOR PREPARING SUCCINIC ACID EMPLOYING THE SAME



(57) Abstract: The present invention relates to novel rumen bacterial mutants resulted from the disruption of a lactate dehydrogenase gene (*ldhA*) and a pyruvate formate-lyase gene (*pfl*) (which are involved in the production of lactic acid, formic acid and acetic acid) from rumen bacteria; a novel bacterial mutant (*Mannheimia* sp. LPK7) having disruptions of a lactate dehydrogenase gene (*ldhA*), a pyruvate formate-lyase gene (*pfl*), a phosphotransacetylase gene (*pta*), and an acetate kinase gene (*ackA*); a novel bacterial mutant (*Mannheimia* sp. LPK4) having disruptions of a lactate dehydrogenase gene (*ldhA*), a pyruvate formate-lyase gene (*pfl*) and a phosphoenolpyruvate carboxylase gene (*ppc*) involved in the immobilization of CO₂ in a metabolic pathway of producing succinic acid; and a method for producing succinic acid, which is characterized by the culture of the above mutants in anaerobic conditions. The inventive bacterial mutants have the property of producing succinic acid at high concentration while producing little or no organic acids, as compared to the prior wild-type strains of producing various organic acids. Thus, the inventive bacterial mutants are useful as strains for the industrial production of succinic acid.



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